Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_

201 Ch 5 Review

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_What center is formed by the 3 altitudes of a triangle?

2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_What center is formed by the 3 medians of a triangle?

3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_What center is formed by the 3 perpendicular bisectors of the sides of a triangle?

4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_What center is formed by the 3 angle bisectors of a triangle?

Mark the following pictures with what you know to be true based on the given information. (either right angles or congruent segments or angles)

5. BD is a median of ΔABC. 6. FH is an altitude of ΔEFG 7. JL bisects ∠IJK.

Use the following diagram for #s 8-10.

Given: AB⊥CD, ∠ACE ≅ ∠BCE, and AF ≅ BF. Identify each segment as median, altitude, angle bisector, or perpendicular bisector.

8.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_CE

9.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_CF

10.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_CD

11. G is the incenter.

AG = 15

GF = 10

DG = 2x + 1

D

E

F

G

A

B

C

x = \_\_\_\_\_\_

AG = 3x - 4

CG = 14

GE = 17

G

F

E

D

A

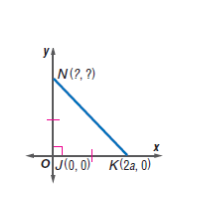
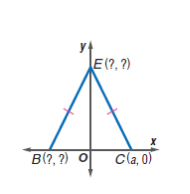
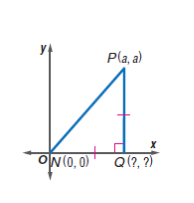
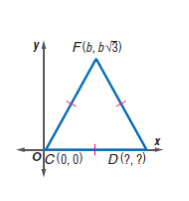
B

C

12. G is the circumcenter.

x = \_\_\_\_\_

13. Find the coordinates of the centroid of ΔABC. Given A(-5, 3) B (1, 9) C(7, 3).

14. Find the missing coordinates of each triangle.



15. Complete the following indirect proof.

Given: ∠1 and ∠2 are not congruent

Prove: AB and CD are not parallel.

Name the shortest segment.

16. \_\_\_\_\_\_\_

**Circle the larger segment or angle.**

17. AB or AC 18. ∠1 or ∠2 19. DF or EF



20. MP or NO 21. JL or LK 22. ∠1 or ∠2



**Write an inequality to describe the possible values of x.**

23. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 24. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 25. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_





Is it possible for a triangle to have sides with the lengths indicated?

26. \_\_\_\_\_ 13, 15, 20

27. \_\_\_\_\_ 6, 6, 11

28. \_\_\_\_\_4, 9, 13

29. Two sides of a triangle are 7 and 9. What is the range for the 3rd side?

\_\_\_\_\_\_\_\_< x < \_\_\_\_\_\_\_\_

30. Complete the following statements so that they would be justified by an inequality theorem. (Hinge Theorem, Converse of Hinge Theorem, triangle inequality theorem, Theorems 5.10 and 5.11, or the exterior ∠ inequality theorem.)

a. If m∠4 > m∠5, then \_\_\_\_\_ > \_\_\_\_\_. (thm. 5.11)

b. If m∠1 > m∠5, then \_\_\_\_\_ > \_\_\_\_\_. (thm. 5.11)

c. If AD = DC and AB < BC, then \_\_\_\_\_ > \_\_\_\_\_. (Conv. Of Hinge)

d. AC + DC > \_\_\_\_\_. (Triangle ineq.)

e. m∠2 > \_\_\_\_\_\_ or \_\_\_\_\_\_. (Ext. angle ineq.)

31. Describe the possible values for x.

32. Do the following coordinate proof.



Given: Isosceles ΔABC, where M and N are midpoints of the legs.

Prove: AM = BN

33.

Given: EC = EB = ED; m∠CEB > m∠CED

Prove: AC > CD Statements Reasons

C

B

E

A

D



34.

Statements Reasons